<b>Work Ord</b> March-27-13 10		8871		*988	371*						Page 1
Item ID: Revision ID:	D3021-041			Accept	*N900	<u>040</u>	100	)*	Setup St	11	IS1*
Item Name:	Tube Assemb	oly							, 50	<sup>ωρ</sup> *Ν	JS2*
Start Date:	3/27/13	Start Qty: 1.00	*1*		Cust Item !	ID:					
Required Date: Reference:	3/28/13	Req'd Qty: 1.00	*1*		Customer:	•					
Approvals:	Process Pl	an: \\	Date:	Tooling:	D	ate:	_		Run St	art *\	IR1*
	QC:		Date:	SPC (Y/N):		ate:			St	op */	IR2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Numbe	Insp. r Stamp
Draw Nbr	Re	vision Nbr				, , , , , , , , , , , , , , , , , , , ,					
D3021	В										
100	·			0.00							
*100* Large Fab		Large Fab Memo		0.00				0	<i>L</i> -7	13-9	1-4
Large Fab		1-Cut tube	as per Dwg D3021				•				
		2-Drill tube	as per Dwg D3021 using	g DT8622							
		3-Deburr									
		4-Weld as p A/R 4130	per Dwg D3021 QSI004 Rod Batch: ////	8875							**************************************
*110 *110*		QC9- Inspect visual per	QSI004- Fusion Welds	0.00				/	æ	13-	
QC		Memo		0.00							<u> </u>

Quality Control

NCR: Y	es / No			-	WORK ORDER NON-O	CONF	ORN	MANCE / UPD	ATE			
								•		QA Closed:	Date:	
					DISPOSITION				AGAINST DI	PARTMENT	/PROCESS	
Work Orde Part N NCR N	0				Rework Scrap Use-as-is Work Order Update		r Therm	Skid-tube  Machining noforming  Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update	Ini	tial	Acti	on	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chie	f Eng	Descri	ption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training												
					F	AULT	CATE	GORY				
Landin	Bending Centre No Cracks Crushed/ Cuffs Heat Trea	Crimped at n Strip in		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short	H. In In N	struct lainte lislabe lisread	on Incomplete ions Incomplete/U nance led	nclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
٠.	Ripples in	n Bend			Drill Holes	0	ffset					

Out of Calibration

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Work Orde		871		*988	371*							Page 2
Item ID: Revision ID:	D3021-041			Accept	*N900	040	100	)*	Setup	Start	*N:	S1*
Item Name:	Tube Assembl	у								Stop	*N:	S2*
Start Date:	3/27/13	Start Qty: 1.00	*1*		Cust Item I	ID:						
Required Date:	3/28/13	Req'd Qty: 1.00	*1*		Customer:	•						
Reference:							-		n	Stant		
Approvals:	Process Pla	ın:	Date:	Tooling:	Da	ate:			Run	Start	*N	R1*
	QC:		Date:	<b>SPC (Y/N):</b>	Da	ate:				Stop	*N	R2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	t Re	•	Reject Number	Insp. Stamp
120		QC5- Inspect part comp	leteness to step on W/O	0.00								240
*120* QC Quality Control		Memo		0.00			(	<u>D 12</u>	<u> </u>	<u>4-0</u> 4		09 
130		Grey Sandtex(Ref:4.3.5.	.6) per QSI005 4.3	0.00			1	\		. 4	1,0	) /
*130* Powder Coating	i /	<b>Memo</b> START TIN OVEN TEN	ME: 17-43 MPERATURE: 32	(J) 0.00=			/	X Y		V1-J	-13	104/04/
W122	266	FINISH TIM		_								
140		QC3- Inspect Part Finish	• •	0.00						/	<b>∩</b> 0	, ,
*14N*		Memo		0.00				(_	<u> </u>	4_	<u> </u>	13/04/67

Quality Control

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

								•		QA Closed:	Date:	
Work Order	 :.				DISPOSITION				AGAINST D	EPARTMENT	/PROCESS	** **
Part No	o				Rework Scrap Use-as-is Work Order Update		N Therm	Skid-tube Machining Moforming Large Fab	Crosstube Small Fab Finishing Composite	<b>⊣</b>	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
					· <u> </u>	_						
Root			'	Descr	iption of work order update	Init	ial	Ac	tion	Sign &		
Cause	Date	e Step	Qty		or Non-conformance	Chief	Eng	Desc	ription	Date	Verification	QC Inspector
oc/Data quip/Tooling Operator			ı		÷							
Aaterial etup Other rocess upplier							·					
raining Inapproved		ļ.			·							
					F	AULT	CATE	GORY				
Landing	g Gear		"	_	General	_			_	_		,
	Bendir Centre Cracks	Not Conc	entric to	o/s	Bend BOM/Route Broken/Damaged	На	rain ardwai spectio	re on incomplete		Ovalized Over/Under Part Incorre	<del></del>	Pressure/Forced Temperature/Cure Weld
	Crushe	ed/Crimpe	d '		Burrs			ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs		!		Contamination	$\vdash$		nance		Part Moved		
_	Heat T	reat			Countersink	М	islabe	led		Positioned V	Vrong	,
	Inspec	tion Strip i	n Tube		Cut Too Short	Шм	isread	İ		Power Loss/	Surge	Other
		s in Bend	!		Drill Holes	$\mathbf{H}$	ffset					
	Torqu	e Waves in	Extrusio	n L	Drawing		ut of C	Calibration				
	Turnir	g Sequenc	<b>e</b> '		Finish		ut of S	equence				
	Wave	Twist in Tu	ube;		Folio	To	utside	Dimensions				

<b>Work Ord</b> <i>March-27-13 1</i>	er ID 988'	71	·	*988	R71*						Page 3
Item ID: Revision ID: Item Name:	D3021-041 Tube Assembly			Accept	*N900	<b>040</b>	100	)* s	etup Sta	1.71	S1* S2*
Start Date: Required Date Reference:	3/27/13	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item I Customer:	D:					
Approvals:	Process Plan QC:	:	Date:	Tooling: SPC (Y/N):		ate:		R	tun Sta Sto	1/1	R1* R2*
Sequence ID/ Work Center I	ID 1	Operation Description Identify as per dwg & Sto	ock Location:	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
*150* Packaging Packaging		Memo		0.00				_/_			(f) 3/0
160 *160* QC		QC21- Final Inspection -  Memo	Work Order Release	0.00					13	14/4	1.19

Quality Control

\$13-04-4

											DQA:	Date:	
NCR:	Yes /	No				WORK ORDER NON-C	O	NFORM	MANCE / UPI		QA Closed:	Date:	
Work Orde	ar.					DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	·
Part l	1 1 1					Rework Skid-tube Crosstube Scrap Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite  ption of work order update Initial Action				Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root	Ĭ				Descri	ption of work order update		nitial	Act	ion	Sign &		
Cause		ate	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling	П		:										
Operator							-						
Material							Ì						
Setup							Ì						
Other	П							-					
Process													
Supplier													
Training	П												
Unapproved													
						F	AUL	T CATE	GORY				_
Landi	ng Gear					General		_					
	Ber	ding				Bend		Grain			Ovalized		Pressure/Forced
	Cer	tre No	t Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cra	cks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	t	Weld
	Cru	shed/0	rimped			Burrs		Instruct	ions Incomplete/U	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuf	fs				Contamination		Mainte	nance		Part Moved		-
	Heat Treat					Countersink		Mislabeled Positioned Wrong					

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Other

Power Loss/Surge

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Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

## **Picklist Print**

March-27-13 10:23:06 AM

Page 1

Work Order ID:

98871

Parent Item:

D3021-041

Parent Item Name:

Tube Assembly

**Start Date:** 3/27/13

Required Date: 3/28/13

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP 01.10.23 New Issue SM

DD VERF:JLM

IPP REV:B 12.06.26 DWG PB2

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3017-11 cap		Manufactured	No			100	Each	34.0000	2	$Q^2$	13-4-	4	
				Location WA002	37	Loc Otv 34 34	<u>Lo</u>	oc Code		2			
<b>M4130NT0.750W.049</b> 4130 RD Tube .750 x.049	W	Purchased	No	<b>Location</b>		100 <u>Loc Qty</u>	f <u>Lo</u>	63.2118 oc Code	2.0833	2,1929 EZ	474 <i>[3-4-</i> 9	/	
					339	63.2117893 9.6217893 53.59				2./9_			

												DQA:	Da	ate:	
NCR: \	⁄es	/ No		,		WORK ORDER NON-C	OI	NFORM	MANCE / UP	DATE	0	A Closed:		ate:	
				,		DISPOSITION				AGAINST DE					
Work Orde	er: _										•	,			
Part N	۱o. <sub>-</sub>			;		Rework Scrap Use-as-is		ľ	Skid-tube Machining noforming	Crosstube Small Fab Finishing			Water Jet d. Eng. Coor e/Packaging		Engineering Quality Other
NCR N	۱o. <sub>-</sub>								Composite		,	Supplier	-		
Root					Descri	ption of work order update		Initial	Ac	tion	Γ	Sign &	,		,
Cause		Date	Step	Qty	C	or Non-conformance	Ct	nief Eng	Desc	ription		Date	Verification	n	QC Inspector
Doc/Data															
Equip/Tooling												İ			
Operator			i i												
Material				1											
Setup				1 1											
Other															
Process				,											
Supplier															
Training												į			
Unapproved															
				1		F/	٩U١	LT CATE	GORY						
Landi	ng G	iear				General		=						_	
		Bending		1		Bend		Grain			ļo	Ovalized		Ш	Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Jo	Over/Under t	tolerance	Ш	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		P	art Incorrec	t	Ш	Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete/	Unclear	P	art Lost/Mis	ssing		Wrong Stock Pulled
		Cuffs		· 1		Contamination		Mainte	nance		P	art Moved			
		Heat Trea	it	i		Countersink		Mislabe	led		P	ositioned W	/rong		
		Inspectio	n Strip in	Tube		Cut Too Short	Γ	Misread	I		P	ower Loss/S	Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

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Ripples in Bend

Turning Sequence

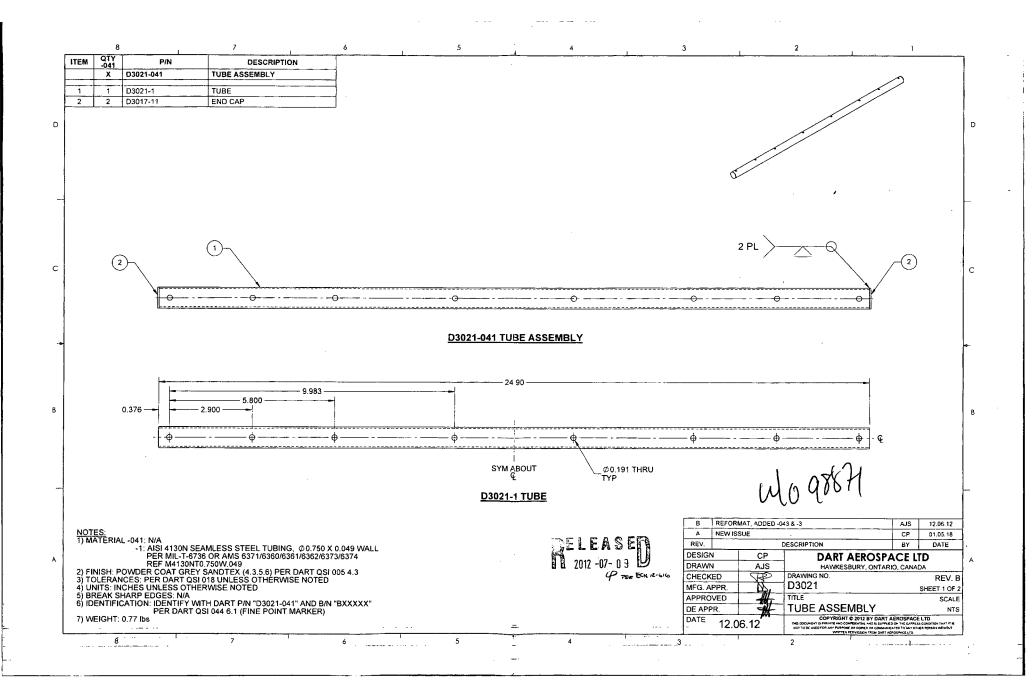
Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish



										DQA:	Date	•
NCR: Y	es / No				WORK ORDER NON-	COI	NFORM	MANCE / UPI	DATE	QA Closed:	 Date	
t.					<u> </u>		<u> </u>					-
Work Orde	er:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap			Skid-tube Machining	Crosstube Small Fab	4	Water Jet d. Eng. Coor.	Engineering Quality
NCR N	No				Use-as-is Work Order Update		1	noforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root				Descri	ption of work order update		Initial	Act	tion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Ch	nief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data				<del>"</del>								
Equip/Tooling												
Operator												
Material												
Setup												
Other												
Process												
Supplier			i i					,				1
Training												
Unapproved												
	<del></del>					AUL	LT CATE	GORY				
Landi	ng Gear			_	General	_	1		<b></b>	7	_	<b>-</b>
	Bending				Bend	<u> </u>	Grain		_	Ovalized		Pressure/Forced
•	Centre Not Concentric to O/S BOM/Route					-	Hardwa			Over/Under	<del></del>	Temperature/Cure
	Cracks Broken/Damaged					$\vdash$	Inspection Incomplete Part Incorrect Weld					
	Crushed/Crimped Burrs										Wrong Stock Pulled	
	Cuffs Contamination					Maintenance Part Moved						
	Heat Treat Countersink					Mislabeled Positioned Wrong						7
	Inspectio	n Strip in	Tube		Cut Too Short	1	Misread	ı		Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

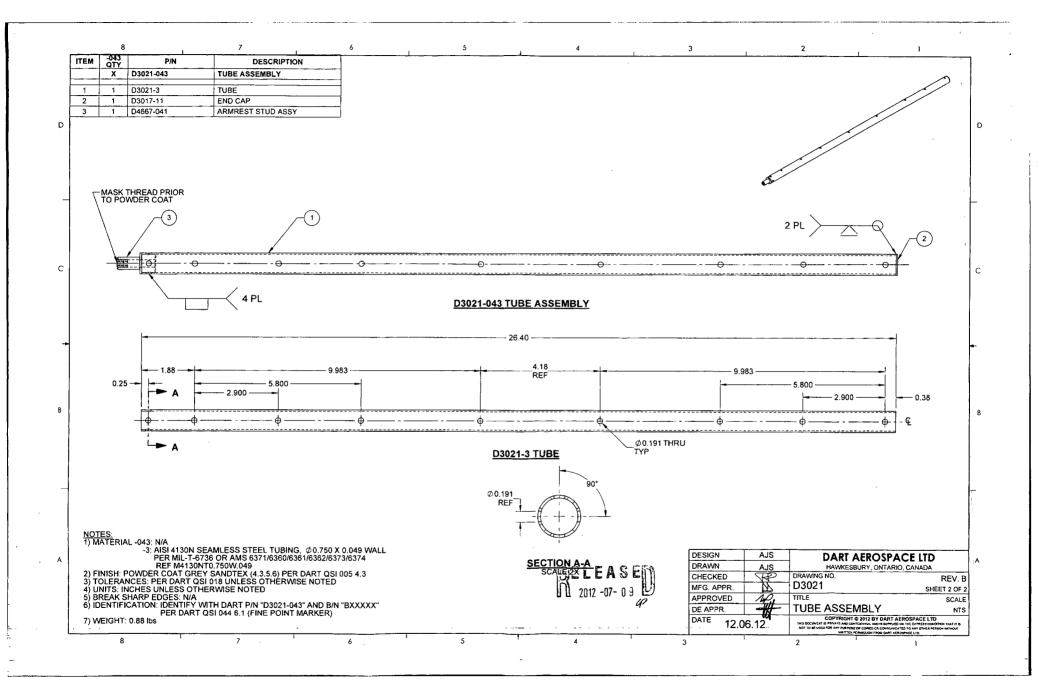
Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish



DQA:	Date:	

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

								·	QA Closed:	Da	te:
Work Orde	er:				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part I	No				Rework Scrap Use-as-is Work Order Update	- I	Skid-tube  Machining  moforming  Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Quality Other
Root			:	Descri	ption of work order update	Initial	A	ction	Sign &		
Cause	Dat	e Step	Qty		or Non-conformance	Chief Eng	Desc	cription	Date	Verificatio	n QC Inspector
Doc/Data					<u>.</u>						
Equip/Tooling	П										
Operator	Π.							,			
Material											
Setup											
Other			1								
Process											
Supplier											
Training			'								
Unapproved											
			<u> </u>		F.	AULT CATE	GORY				
Landi	ng Gear				General		-		•		
	Bend	ng		<u> </u>	Bend	Grain			Ovalized		Pressure/Forced
	Centr	e Not Conce	ntric to (	o/s	BOM/Route	Hardw	are		Over/Under	tolerance	Temperature/Cure
	Crack	S			Broken/Damaged	Inspec	tion Incomplete		Part Incorre		Weld
	Crush	ed/Crimped			Burrs	Instruc	tions Incomplete,	/Unclear	Part Lost/M	ssing	Wrong Stock Pulled
	Cuffs			<u> </u>	Contamination	Maint	enance		Part Moved		
	Heat	Treat			Countersink	Mislab	eled		Positioned V	Vrong	
	<del></del>	ction Strip ir	Tube		Cut Too Short	Misrea	d		Power Loss/	Surge	Other
	Rippl	es in Bend	ļ	L	Drill Holes	Offset					
	Torqu	ie Waves in	Extrusio	۱ 🗀	Drawing	Out of	Calibration				
	Turni	ng Sequence	•		Finish	Out of	Sequence				
	I Wave	/Twist in Tu	he	l	Folio	I loutsid	e Dimensions				